abcam

Product datasheet

Anti-Dnmt3b antibody ab2851

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Overview

Product name	Anti-Dnmt3b antibody
Description	Rabbit polyclonal to Dnmt3b
Host species	Rabbit
Specificity	This antibody detects DNA methyltransferase 3b (Dnmt3b) from human and mouse tissues and cells as well as recombinant human Dnmt3b. This antibody detects, to a lesser extent, full-length human recombinant Dnmt3a.
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide corresponding to Mouse Dnmt3b aa 1-100. Database link: **O88509** Run BLAST with Run BLAST with
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 99% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2851 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★☆ (1)	1/100 - 1/1000.
WB	★★★★☆ (1)	Use a concentration of 2 µg/ml. Predicted molecular weight: 97.5 kDa.

Target

Function Required for genome wide de novo methylation and is essential for the establishment of DNA methylation patterns during development. DNA methylation is coordinated with methylation of histones. May preferentially methylates nucleosomal DNA within the nucleosome core region. May function as transcriptional co-repressor by associating with CBX4 and independently of DNA methylation. Seems to be involved in gene silencing (By similarity). In association with DNMT1 and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9. Isoforms 4 and 5 are probably not functional due to the deletion of two conserved methyltransferase motifs.

Tissue specificity Ubiquitous; highly expressed in fetal liver, heart, kidney, placenta, and at lower levels in spleen, colon, brain, liver, small intestine, lung, peripheral blood mononuclear cells, and skeletal muscle. Isoform 1 is expressed in all tissues except brain, skeletal muscle and PBMC, 3 is ubiquitous, 4 is expressed in all tissues except brain, skeletal muscle, lung and prostate and 5 is detectable only in testis and at very low level in brain and prostate.

Involvement in disease Defects in DNMT3B are a cause of immunodeficiency-centromeric instability-facial anomalies syndrome (ICF) [MIM:242860]. ICF is a rare autosomal recessive disorder characterized by a variable immunodeficiency, mild facial anomalies, and centromeric heterochromatin instability involving chromosomes 1, 9, and 16. ICF is biochemically characterized by hypomethylation of CpG sites in some regions of heterochromatin.

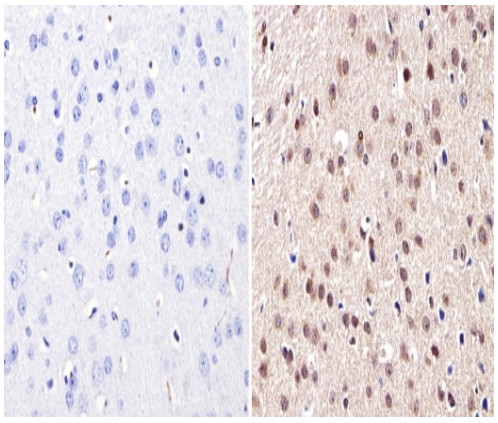
Sequence similarities Belongs to the C5-methyltransferase family.
Contains 1 ADD domain.
Contains 1 GATA-type zinc finger.
Contains 1 PHD-type zinc finger.
Contains 1 PWWP domain.

Domain The PWWP domain is essential for targeting to pericentric heterochromatin.

Post-translational modifications Sumoylated.

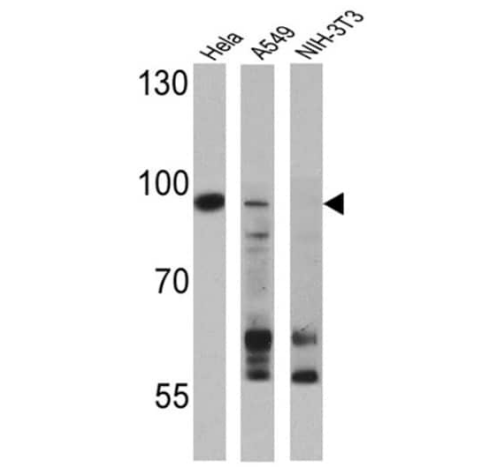
Cellular localization Nucleus.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt3b antibody (ab2851)

ab2851 labellling Dnmt3b in the nucleus of Mouse brain tissue (right) compared with a negative control (left) by Immunohistochemistry (formalin/PFA-fixed paraffin-embedded sections). To expose target proteins, antigen retrieval method was performed using 10mM sodium citrate (pH 6.0) microwaved for 8-15 min. Tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS. Tissue sections were incubated with primary antibody (1:200 in 3% BSA-PBS) overnight at 4°C. A HRP-conjugated anti-rabbit was used as the secondary antibody, followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



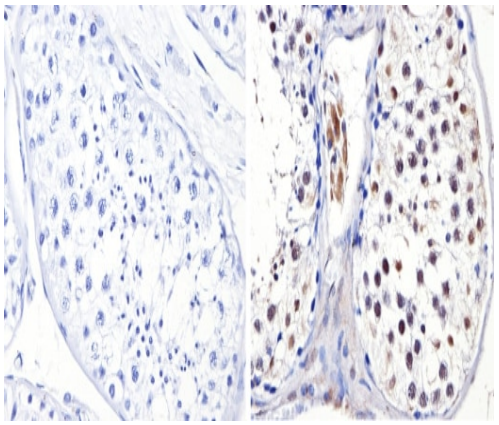
Western blot - Anti-Dnmt3b antibody (ab2851)

All lanes : Anti-Dnmt3b antibody (ab2851) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : A549 cell lysate
Lane 3 : NIH-3T3 cell lysate

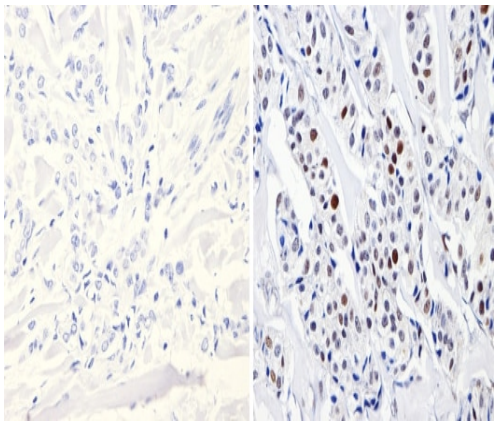
Lysates/proteins at 25 µg per lane.

Predicted band size: 97.5 kDa
Observed band size: 97 kDa



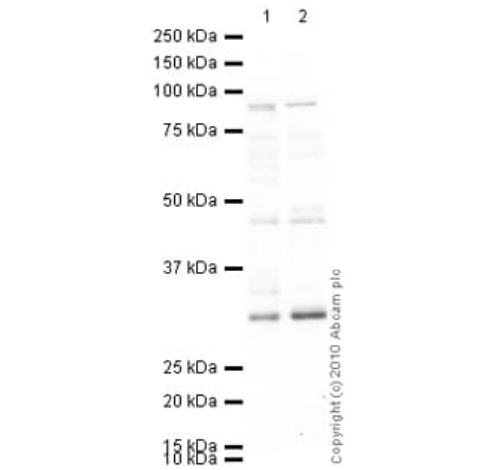
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt3b antibody (ab2851)

ab2851 labellling Dnmt3b in the nucleus of Human testis tissue (right) compared with a negative control (left) by Immunohistochemistry (formalin/PFA-fixed paraffin-embedded sections). To expose target proteins, antigen retrieval method was performed using 10mM sodium citrate (pH 6.0) microwaved for 8-15 min. Tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS. Tissue sections were incubated with primary antibody (1:500 in 3% BSA-PBS) overnight at 4°C. A HRP-conjugated anti-rabbit was used as the secondary antibody, followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dnmt3b antibody (ab2851)

ab2851 labellling Dnmt3b in the nucleus and cytoplasm of Human breast carcinoma (right) compared with a negative control (left) by Immunohistochemistry (formalin/PFA-fixed paraffin-embedded sections). To expose target proteins, antigen retrieval method was performed using 10mM sodium citrate (pH 6.0) microwaved for 8-15 min. Tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS. Tissue sections were incubated with primary antibody (1:500 in 3% BSA-PBS) overnight at 4°C. A HRP-conjugated anti-rabbit was used as the secondary antibody, followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Western blot - Anti-Dnmt3b antibody (ab2851)

All lanes : Anti-Dnmt3b antibody (ab2851) at 1 µg/ml

Lane 1 : A498 (Human Kidney Carcinoma) Whole Cell Lysate
Lane 2 : JEG-3 (Human placental choriocarcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 97.5 kDa
Observed band size: 97.5 kDa
Additional bands at: 32 kDa, 46 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 2 minutes

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